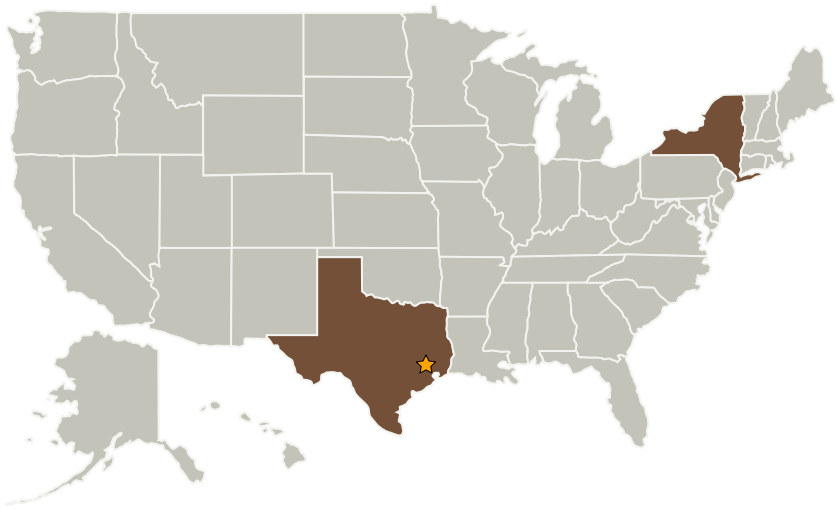
Carbon Nanotube-Based Adsorbents for Volatile Air Contaminants, Phase II

Completed Technology Project (2007 - 2009)

Project Introduction

In completing the Phase I SBIR, Agave BioSystems and the Universities Space Research Association, have successfully demonstrated proof of concept for the use of novel carbon nanotube (CNT)-based structures as next generation smart adsorbents for the adsorption and destruction of potentially toxic air contaminants. Since CNTs have an extremely high surface area, can be readily modified with metals or functional groups, and can function without the mass transfer limitations of traditional activated carbon, they are an ideal material for integration into spacecraft air handling systems. In the Phase II program, we will build upon the unique structural and chemical nature of carbon nanotubes to construct a prototype system utilizing these smart adsorbents.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Johnson Space Center(JSC)	Lead Organization	NASA Center	Houston, Texas
Agave BioSystems, Inc.	Supporting Organization	Industry	Ithaca, New York

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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Johnson Space Center (JSC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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New York	Texas

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
  - TX06.1 Environmental Control & Life Support Systems (ECLSS) and Habitation Systems
    - TX06.1.1 Atmosphere Revitalization